

What is claimed is:

1. A substantially pure ARP1 nucleic acid molecule, comprising substantially the nucleotide sequence shown as SEQ ID NO:1.

5           2. A substantially pure ARP1 nucleic acid molecule, comprising at least 10 contiguous nucleotides of nucleotides 722 to 1026 of SEQ ID NO:1.

          3. The substantially pure ARP1 nucleic acid molecule of claim 2, comprising at least 15 contiguous  
10 nucleotides of nucleotides 722 to 1026 of SEQ ID NO:1.

          4. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

          (a) contacting a sample from said individual  
15 with an ARP1 nucleic acid molecule comprising at least 10 contiguous nucleotides of SEQ ID NO:1;

          (b) determining a test expression level of ARP1 RNA in said sample; and

          (c) comparing said test expression level to a  
20 non-neoplastic control expression level of ARP1 RNA,  
          wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said individual.

5. The method of claim 4, wherein said sample comprises prostate tissue.

6. The method of claim 4, wherein said sample is selected from the group consisting of blood, urine and  
5 semen.

7. The method of claim 4, wherein said ARP1 nucleic acid molecule is 15 to 18 nucleotides in length.

8. A method for treating or reducing the severity of a prostate neoplastic condition in an  
10 individual, comprising administering to said individual an ARP1 regulatory agent.

9. A substantially pure ARP2 nucleic acid molecule, comprising substantially the nucleotide sequence shown as SEQ ID NO:2.

15 10. A substantially pure ARP2 nucleic acid molecule, comprising at least 10 contiguous nucleotides of nucleotides 1128 to 4509 of SEQ ID NO:2.

11. The substantially pure ARP2 nucleic acid molecule of claim 10, comprising at least 15 contiguous  
20 nucleotides of nucleotides 1128 to 4509 of SEQ ID NO:2.

12. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

(a) contacting a sample from said individual  
5 with an ARP2 nucleic acid molecule comprising at least 10 contiguous nucleotides of nucleotides 1128 to 4509 of SEQ ID NO:2;

(b) determining a test expression level of ARP2 RNA in said sample; and

10 (c) comparing said test expression level to a non-neoplastic control expression level of ARP2 RNA, wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said  
15 individual.

13. The method of claim 12, wherein said sample comprises prostate tissue.

14. The method of claim 12, wherein said sample is selected from the group consisting of blood,  
20 urine and semen.

15. The method of claim 12, wherein said ARP2 nucleic acid molecule is 15 to 18 nucleotides in length.

16. A method for treating or reducing the severity of a prostate neoplastic condition in an  
25 individual, comprising administering to said individual an ARP2 regulatory agent.

17. A substantially pure ARP3 nucleic acid molecule, comprising a nucleic acid sequence encoding an ARP3 polypeptide having at least 45% amino acid identity with SEQ ID NO:5.

5           18. The substantially pure ARP3 nucleic acid molecule of claim 17, which encodes the amino acid sequence shown as SEQ ID NO:5.

19. The substantially pure ARP3 nucleic acid molecule of claim 18, comprising the nucleotide sequence  
10 shown as SEQ ID NO:4.

20. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

(a) contacting a sample from said individual  
15 with an ARP3 nucleic acid molecule comprising at least 10 contiguous nucleotides of SEQ ID NO:4;

(b) determining a test expression level of ARP3 RNA in said sample; and

(c) comparing said test expression level to a  
20 non-neoplastic control expression level of ARP3 RNA,  
wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said individual.

25           21. The method of claim 20, wherein said sample comprises prostate tissue.

22. The method of claim 20, wherein said sample is selected from the group consisting of blood, urine and semen.

23. The method of claim 20, wherein said ARP3  
5 nucleic acid molecule is 15 to 18 nucleotides in length.

24. A substantially pure ARP3 polypeptide, comprising an amino acid sequence having at least 45% amino acid identity with SEQ ID NO:5.

25. The substantially pure ARP3 polypeptide of  
10 claim 24, comprising the amino acid sequence shown as SEQ ID NO:5.

26. A substantially pure ARP3 polypeptide fragment, comprising at least eight contiguous amino acids of SEQ ID NO:5.

27. A binding agent, comprising a molecule  
15 that selectively binds an ARP3 polypeptide having at least 45% amino acid identity with SEQ ID NO:5.

28. The binding agent of claim 27, wherein said binding agent is an antibody.

29. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

(a) contacting a specimen from said individual  
5 with the binding agent of claim 27;

(b) determining a test expression level of ARP3 polypeptide in said specimen; and

(c) comparing said test expression level to a non-neoplastic control expression level of ARP3  
10 polypeptide,

wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said individual.

15 30. The method of claim 29, wherein said specimen comprises prostate tissue.

31. The method of claim 29, wherein said specimen is selected from the group consisting of blood, serum, urine and semen.

20 32. The method of claim 29, wherein said binding agent that selectively binds said ARP3 polypeptide is an antibody.

33. A method for treating or reducing the severity of a prostate neoplastic condition in an  
25 individual, comprising administering to said individual an ARP3 regulatory agent.

34. A substantially pure ARP4 nucleic acid molecule, comprising a nucleic acid sequence encoding an ARP4 polypeptide having at least 50% amino acid identity with SEQ ID NO:7.

5           35. The substantially pure ARP4 nucleic acid molecule of claim 34, which encodes the amino acid sequence shown as SEQ ID NO:7.

36. The substantially pure ARP4 nucleic acid molecule of claim 35, comprising the nucleotide sequence  
10 shown as SEQ ID NO:6.

37. A substantially pure ARP4 nucleic acid molecule, comprising at least 10 contiguous nucleotides of nucleotides 821 to 1940 of SEQ ID NO:6.

38. The substantially pure ARP4 nucleic acid  
15 molecule of claim 37, comprising at least 15 contiguous nucleotides of nucleotides 821 to 1940 of SEQ ID NO:6.

39. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

20           (a) contacting a sample from said individual with an ARP4 nucleic acid molecule comprising at least 10 contiguous nucleotides of SEQ ID NO:6;

          (b) determining a test expression level of ARP4 RNA in said sample; and

(c) comparing said test expression level to a non-neoplastic control expression level of ARP4 RNA,

wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said individual.

40. The method of claim 39, wherein said sample comprises prostate tissue.

41. The method of claim 39, wherein said sample is selected from the group consisting of blood, urine and semen.

42. The method of claim 39, wherein said ARP4 nucleic acid molecule is 15 to 18 nucleotides in length.

43. A substantially pure ARP4 polypeptide, comprising an amino acid sequence having at least 50% amino acid identity with SEQ ID NO:7.

44. The substantially pure ARP4 polypeptide of claim 43, comprising the amino acid sequence shown as SEQ ID NO:7.

45. A substantially pure ARP4 polypeptide fragment, comprising at least eight contiguous amino acids of SEQ ID NO:7.

46. A binding agent, comprising a molecule that selectively binds an ARP4 polypeptide having at least 50% amino acid identity with SEQ ID NO:7.



47. The binding agent of claim 46, wherein said binding agent is an antibody.

48. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

(a) contacting a specimen from said individual with the binding agent of claim 46;

(b) determining a test expression level of ARP4 polypeptide in said specimen; and

10 (c) comparing said test expression level to a non-neoplastic control expression level of ARP4 polypeptide,

wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said individual.

49. The method of claim 48, wherein said specimen comprises prostate tissue.

50. The method of claim 48, wherein said specimen is selected from the group consisting of blood, serum, urine and semen.

51. The method of claim 48, wherein said binding agent that selectively binds said ARP4 polypeptide is an antibody.

52. A method for treating or reducing the severity of a prostate neoplastic condition in an individual, comprising administering to said individual an ARP4 regulatory agent.

5           53. A substantially pure ARP5 nucleic acid molecule, comprising a nucleic acid sequence encoding an ARP5 polypeptide having at least 40% amino acid identity with SEQ ID NO:9.

10           54. The substantially pure ARP5 nucleic acid molecule of claim 53, which encodes the amino acid sequence shown as SEQ ID NO:9.

55. The substantially pure ARP5 nucleic acid molecule of claim 56, comprising the nucleotide sequence shown as SEQ ID NO:8.

15           56. A substantially pure ARP5 nucleic acid molecule, comprising at least 10 contiguous nucleotides of nucleotides 565 to 1276 of SEQ ID NO:8.

20           57. The substantially pure ARP5 nucleic acid molecule of claim 56, comprising at least 15 contiguous nucleotides of nucleotides 565 to 1276 of SEQ ID NO:8.

58. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

(a) contacting a sample from said individual  
5 with an ARP5 nucleic acid molecule comprising at least 10 contiguous nucleotides of SEQ ID NO:8;

(b) determining a test expression level of ARP5 RNA in said sample; and

(c) comparing said test expression level to a  
10 non-neoplastic control expression level of ARP5 RNA,  
wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said individual.

15 59. The method of claim 58, wherein said sample comprises prostate tissue.

60. The method of claim 58, wherein said sample is selected from the group consisting of blood, urine and semen.

20 61. The method of claim 58, wherein said ARP5 nucleic acid molecule is 15 to 18 nucleotides in length.

62. A substantially pure ARP5 polypeptide, comprising substantially an amino acid sequence having at least 40% amino acid identity with SEQ ID NO:9.

63. The substantially pure ARP5 polypeptide of claim 62, comprising the amino acid sequence shown as SEQ ID NO:9.

64. A substantially pure ARP5 polypeptide  
5 fragment, comprising at least eight contiguous amino acids of SEQ ID NO:9.

65. A binding agent, comprising a molecule that selectively binds an ARP5 polypeptide having at least 40% amino acid identity with SEQ ID NO:9.

10 66. The binding agent of claim 65, wherein said binding agent is an antibody.

67. A method of diagnosing or predicting susceptibility to a prostate neoplastic condition in an individual, comprising:

15 (a) contacting a specimen from said individual with the binding agent of claim 65;

(b) determining a test expression level of ARP5 polypeptide in said specimen; and

(c) comparing said test expression level to a  
20 non-neoplastic control expression level of ARP5 polypeptide,

wherein an altered test expression level as compared to said control expression level indicates the presence of a prostate neoplastic condition in said  
25 individual.

68. The method of claim 67, wherein said specimen comprises prostate tissue.

69. The method of claim 67, wherein said specimen is selected from the group consisting of blood,  
5 serum, urine and semen.

70. The method of claim 67, wherein said binding agent that selectively binds said ARP5 polypeptide is an antibody.

71. A method for treating or reducing the  
10 severity of a prostate neoplastic condition in an individual, comprising administering to said individual an ARP5 regulatory agent.